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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,652	12/16/2003	Frederick Stanley Baker	CHR 01-76 CIP II	6308
36878	7590	10/14/2005	EXAMINER	
TOLOK, ANDREY P. 3902 ANNADALE LN #98 SACRAMENTO, CA 95821			STADLER, REBECCA M	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,652

Applicant(s)

BAKER, FREDERICK STANLEY

Examiner

Rebecca M. Stadler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-32 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-16, drawn to a process, classified in class 210, subclass 690+.
- II. Claims 17-32, drawn to a product, classified in class 502, subclass 417.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, activated carbon can be used to remove mercury from water, as filler in an electrode, or as a coloring agent.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different subject matter and classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Terry B. McDaniel on October 6, 2005 a provisional election was made with traverse to prosecute the invention of Group II, claims 17-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

The drawings are objected to because Figure 2 is labeled as Figure 3 and Figure 3 is not labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

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the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the phrase "aromatic nitrogen species" is not present in the specification.

Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The above objected to claims are process of use limitations within product claims. The product of the independent claim remains the same regardless of the intended use.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not disclose how the aromatic nitrogen species is supplied. The specification teaches passing an NH₃-containing gas stream through the carbon. This would provide nitrogen, but the specification is silent as to how the nitrogen becomes aromatic. The discussion regarding XPS does not establish the presence of aromatic nitrogen within the activated carbon. XPS is a highly energetic technique that measures the interior shell electrons, which are not involved in binding. Therefore, the XPS technique cannot be used as proof of bonding and compounds produced thereby.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a.) Claim 17 is unclear insofar as the phrase "aromatic nitrogen species" is not defined.

Does the nitrogen have to be part of the aromatic ring, or is a compound such as trinitrotoluene included in the claim? Or does applicant mean a particular content of N atoms as per specification Figure 6.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 17-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chou 4,624,937.

As to claims 17, and 19-29, Chou '937 discloses a process for making an activated carbon wherein it is expected that the graphene structure of the prior art carbon contains the claimed % by weight of "aromatic nitrogen species" because the process disclosed in Chou '937 is "generally" the same as that utilized to make the carbon of the present invention, as admitted by applicant (see detailed description in the specification). Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to the applicant to prove that the

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prior art products do not necessarily or inherently possess the characteristics of his or her claimed product. See, e.g., In re Best, 562 F.2d 1252, 195 U.S.P.Q. 430 (CCPA 1977). Although Chou '937 does not disclose that its activated carbon is useful for the removal of chloramines from chloramines containing fluid solutions or streams, this intended use does not further limit the claimed carbon product. Of note, Chou '937 teaches that the carbon may be treated with a non-oxygen containing group (see column 2, lines 40-42).

As to claim 18, the intended use of the activated carbon product does not further limit the present invention. As such, Chou '937 meets claim 18.

Claims 30-32 merely require a change in the shape of the carbon in order for the activated carbon to be utilized in a water purification system, which requires that the carbon product be in the shape of a block. It would have been obvious to one of ordinary skill in the art at the time of this invention to put the carbon into the required block shape for use in a water filtration system. See, e.g., In re Rose, 220 F.2d 459, 105 U.S.P.Q. 137 (CCPA 1955).

Claims 17-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Resing article.

As to claims 17, 19-20, and 27-29, Resing discloses a catalytic charcoal carbon with 4-vinylpyridine adsorbed thereon. This carbon product is deemed to meet the "aromatic nitrogen species" limitation because the pyridine compound has an elemental analysis demonstrating a nitrogen content of 0.5% (see page 396, column 1, lines 1-2 of the "2. Experimental Aspects" section. The carbon is derived from a carbon-containing material selected from coal.

As above, claim 18 does not further limit the carbon of the present invention.

As to claim 21, where, as here, the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, the burden of proof is shifted to the applicant, as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

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As to claims 22 –26, it appears that the instantly claimed product by process is the same as that which is claimed. When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. See, e.g., In re Brown, 459 F.2d 531, 173 U.S.P.Q. 685 (CCPA 1972); In re Fessman, 489 F.2d 742, 180 U.S.P.Q. 324 (CCPA 1974).

As above, claims 30-32 are obvious expedients.

Claims 17-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Pels article.

As to claim 17, 19-20, and 27-29, Pels teaches a synthetic char produced with an acridine precursor (containing aromatic nitrogen). The resultant char contains 6.8% elemental nitrogen (see page 1644 Table 1, second example of Acridine) or 2.2% elemental nitrogen (as in the last Carbozole example). This carbon product is an activated carbon because it is subjected to pyrolysis, (see page 1644, column 1, lines 3-6). Finally, the nitrogen is incorporated within the graphene structure (see page 1641, Abstract, lines 9-10). Therefore this carbon is deemed to meet the limitations of the claimed product.

As above, claim 18 does not further limit the carbon of the present invention.

As to claim 21, where, as here, the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, the burden of proof is shifted to the applicant, as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

As to claims 22 –26, it appears that the instantly claimed product by process is the same as that which is claimed. When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. See, e.g., In re

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Brown, 459 F.2d 531, 173 U.S.P.Q. 685 (CCPA 1972); In re Fessman, 489 F.2d 742, 180 U.S.P.Q. 324 (CCPA 1974).

As above, claims 30-32 are obvious expedients.

Claims 17-32 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Walker article.

As to claims 17, 19-20, and 27-29, the Walker reference teaches porous bituminous coal structure in Figure 2, which is deemed to be the same as the claimed activated carbon. This is the case because the chemical structure shown in Figure 2 appears to be similar to the chemical structure depicted in Figure 6 of the present invention.

As above, claim 18 does not further limit the carbon of the present invention.

As to claim 21, where, as here, the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, the burden of proof is shifted to the applicant, as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

As to claims 22 –26, it appears that the instantly claimed product by process is the same as that which is claimed. When the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct and not the examiner to show the same process as making. See, e.g., In re Brown, 459 F.2d 531, 173 U.S.P.Q. 685 (CCPA 1972); In re Fessman, 489 F.2d 742, 180 U.S.P.Q. 324 (CCPA 1974).

As above, claims 30-32 are obvious expedients.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca M. Stadler whose telephone number is 571-272-5956.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

rms

A handwritten signature in black ink, appearing to read 'Stuart L. Hendrickson'.

STUART L. HENDRICKSON
PRIMARY EXAMINER